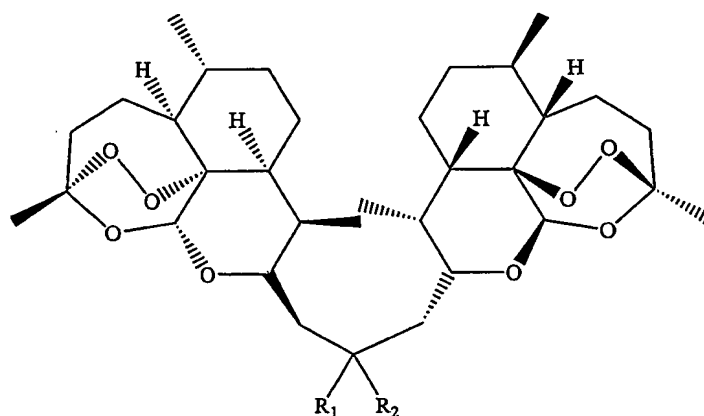


What is claimed is:

1. A compound including resolved enantiomers, diastereomers, solvates and pharmaceutical acceptable salts thereof, said compound having the formula:



5

wherein if  $R_1$  is hydrogen or  $-OH$  then  $R_2$  is  $AX$ , and if  $R_2$  is hydrogen or  $-OH$  then  $R_1$  is  $AX$ , and  $A$  may be absent or  $A$  may be any alkyl or aryl group where  $X$  is hydrogen, a phosphate group, a phosphonic acid derivative group, an alcohol group, a carboxylic acid group, an ether group, an ester group, a nitrile group, a sulfone group, a sulfide group, an amino acid derivative group, an amine group, and amide group, an aldehyde group, or an aromatic group.

10

2. The compound of claim 1, wherein said alcohol group is represented by  $-R^3OH$ , wherein  $R^3$  is a straight chained or branched alkyl group having 1 to 5 carbon atoms.

15

3. The compound of claim 1, wherein said carboxylic acid group comprises  $-R^4COOH$  wherein  $R^4$  is at least one saturated or unsaturated alkyl group, an aryl group an ester group, an ether group or a combination thereof.

4. The compound of claim 3, wherein  $R^4$  is an ester group represented by  $-R^5COO-$ , wherein  $R^5$  is bonded to the carboxylic acid group and has 0 to 5 carbon atoms.

20

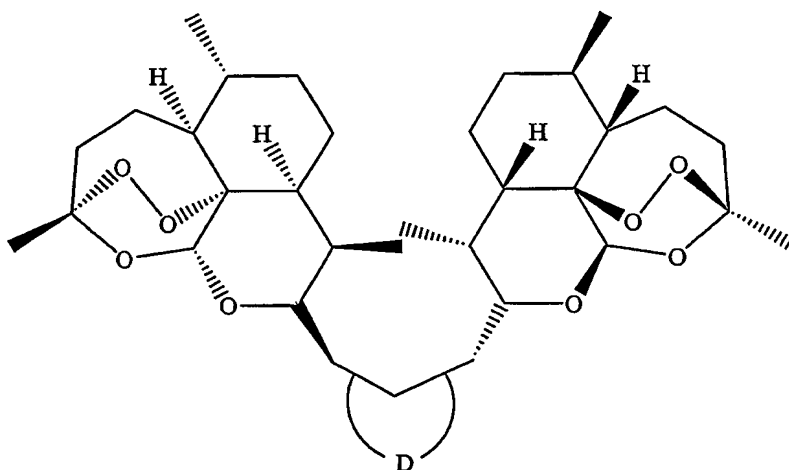
5. The compound of claim 3, wherein  $R^4$  is an ether group represented by  $R^6-O-R^7$  wherein  $R^6$  and  $R^7$  are, independently, an alkyl or allyl group having 0 to 5 carbon atoms.
6. The compound of claim 1, wherein said aromatic group  
5 comprises  $Ar-(R^8)_m$ , wherein Ar represents a benzene ring, and m is 1 or 2.
7. The compound of claim 6, wherein  $R^8$  is  $-CH=CH_2$ , or  $-COOH$ .
8. The compound of claim 1, wherein the ester group is represented by  $-CR^9$ , where  $R^9$  is an ester of nicotinic acid, an ester of isonicotinic acid, or the ester group is represented by  $-CO(C=O)R^{9a}$ , where  
10  $R^{9a}$  is  $Ph(CY_3)_o$ , where o is 1 or 2, and Y may be, independently, H, F, Cl, Br, or I, or where  $R^{9a}$  is a substituted heterocyclohexane compound.
9. The compound of claim 1, wherein the phosphonic acid derivative group is represented by  $-CO-P(R^{10})(O)OH$ , where  $R^{10}$  is an alkyl group having 0 to 5 carbon atoms.
- 15 10. The compound of claim 1, wherein the phosphate group is  $-COP(O)(OR^{11})_2$ , where  $R^{11}$  is an alkyl group having 0 to 5 carbon atoms, or a phenyl group.
11. The compound of claim 1, wherein the nitrile group is  $R^{12}CN$ , where  $R^{12}$  is an alkyl group having 0 to 5 carbon atoms.
- 20 12. The compound of claim 1, wherein the sulfone group is  $-CS(=O)_2R^{13}$ , wherein  $R^{13}$  is  $-N(CH_3)_2$ ,  $-OR^{14}$ , or  $-Ph-COOR^{14}$ , where  $R^{14}$  is H,  $CH_3$ , or  $-CH(CH_3)_2$ .
13. The compound of claim 1, wherein the sulfide group is  $-CSR^{15}$ , where  $R^{15}$  is pyridine or  $-Ph-COOR^{16}$ , where  $R^{16}$  is H or  $CH_3$ .
- 25 14. The compound of claim 1, wherein the amino acid derivative group is  $-COC(=O)CHR^{21}N(R^{17})_2$ , where each  $R^{17}$  group is, independently, H or  $CH_3$  and  $R^{21}$  is hydrogen or any other substituent.

15. The compound of claim 1, wherein the amine group is –  
 $\text{CN}(\text{R}^{18})_2$ , where each  $\text{R}^{18}$  group is, independently, H, an alkyl group, or a  
 phenyl group.

16. The compound of claim 1, wherein the ether group is –C–O–  
 5  $\text{CR}^{19}$ , where  $\text{R}^{19}$  is a substituted pyridine.

17. The compound of claim 1, wherein the amide group is –  
 $(\text{C}=\text{O})\text{N}(\text{R}^{20})_2$ , or  $-\text{CH}_2(\text{C}=\text{O})\text{N}(\text{R}^{20})_2$  where each  $\text{R}^{20}$  is, independently, H or –  
 $\text{CH}_2\text{CH}_2\text{N}(\text{CH}_3)_2$ .

18. A compound including resolved enantiomers, diastereomers,  
 10 solvates and pharmaceutical acceptable salts thereof, said compound having  
 the formula:



where D forms a heterocyclic ring having 3 to 5 atoms.

19. The compound of claim 18, wherein the heterocyclic ring is a 3-  
 15 membered ring and one of the atoms in the ring is oxygen.

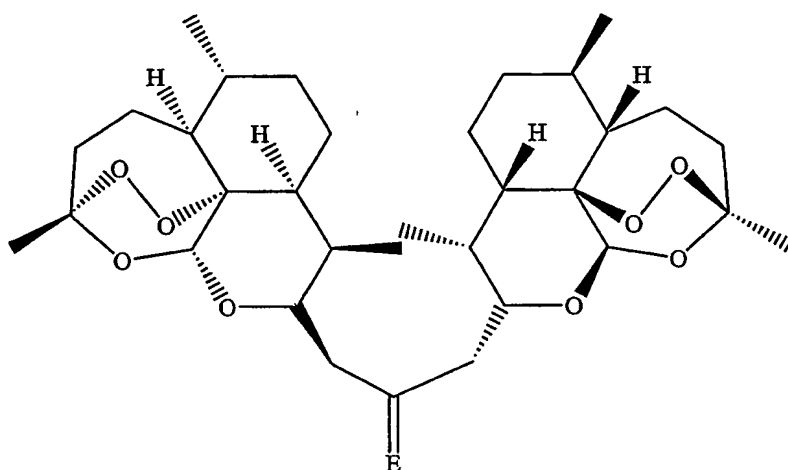
20. The compound of claim 18, wherein the heterocyclic ring is a 5-  
 membered ring and two of the atoms in the ring are oxygen.

21. The compound of claim 20, wherein the heterocyclic ring is  
 substituted with an oxygen atom.

22. The compound of claim 21, wherein another atom in the 5-membered ring is a sulfur or a phosphorous atom.

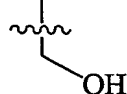
23. The compound of claim 22, wherein the 5-membered ring is substituted with 1 or 2 oxygen atoms bonded to the sulfur atom.

5 24. A compound including resolved enantiomers, diastereomers, solvates and pharmaceutical acceptable salts thereof, said compound having the formula:

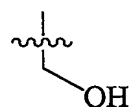


10 where E is H, O, NR, CH<sub>2</sub> or S wherein R may be hydrogen, alkyl, aryl or any other substituent.

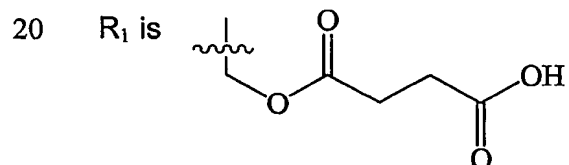
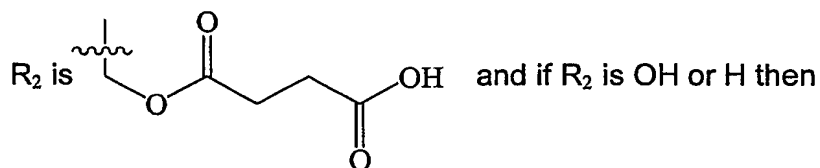
25. The compound of claim 1 wherein if R<sub>1</sub> is H or -OH then R<sub>2</sub> is



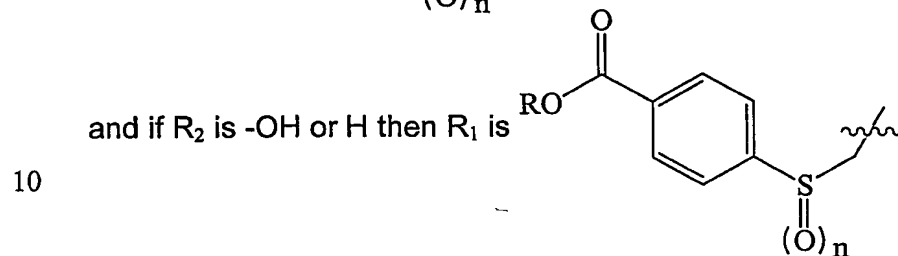
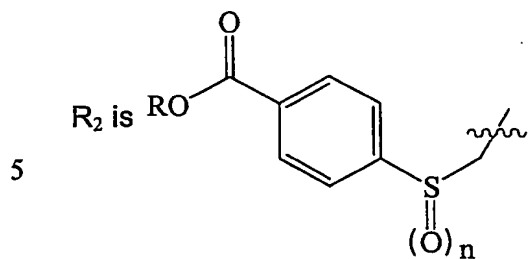
and if R<sub>2</sub> is OH or H then R<sub>1</sub> is



15 26. The compound of claim 1, wherein if R<sub>1</sub> is H or -OH then

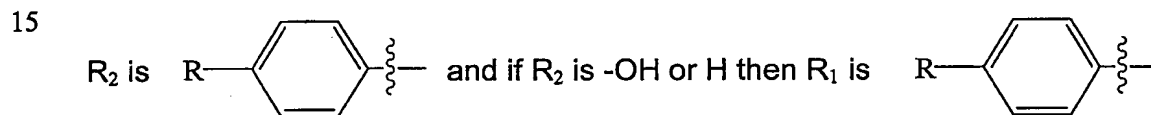


27. The compound of claim 1, wherein if  $R_1$  is H or -OH then



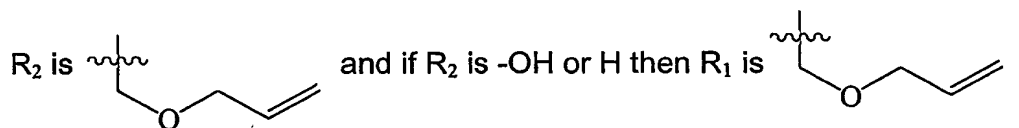
wherein R is hydrogen or a methyl group when n is 0 or 2.

28. The compound of claim 1, wherein if  $R_1$  is H or -OH then

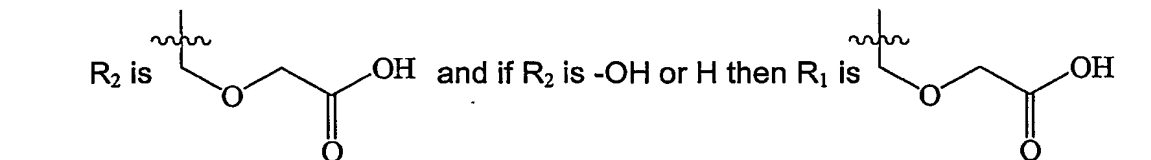


wherein R may be  $\text{CH}_2=\text{CH}$  or  $\text{COOH}$ .

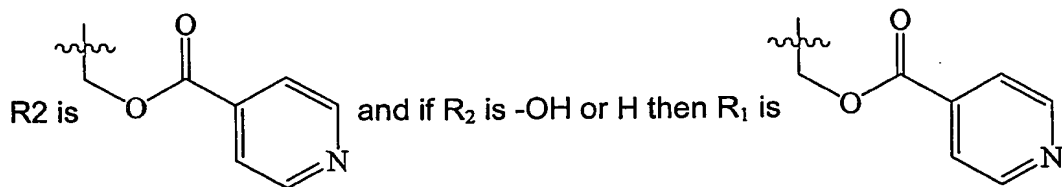
29. The compound of claim 1, wherein if  $R_1$  is H or -OH then



30. The compound of claim 1, wherein if  $R_1$  is H or -OH then

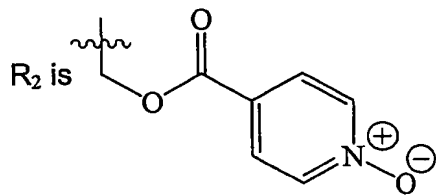


31. The compound of claim 1, wherein if  $R_1$  is H or -OH then



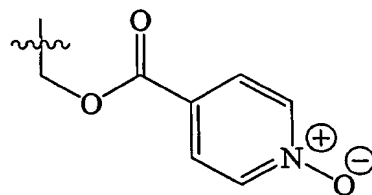
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32. The compound of claim 1, wherein if R<sub>1</sub> is H or -OH then



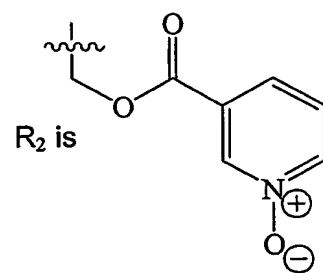
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and if R<sub>2</sub> is -OH or H then R<sub>1</sub> is



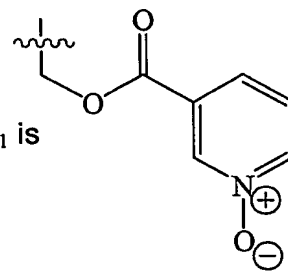
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33. The compound of claim 1, wherein if R<sub>1</sub> is H or -OH then



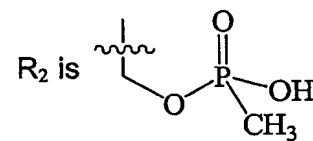
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and if R<sub>2</sub> is -OH or H then R<sub>1</sub> is

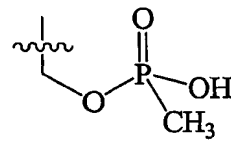


34. The compound of claim 1, wherein if R<sub>1</sub> is H or -OH then

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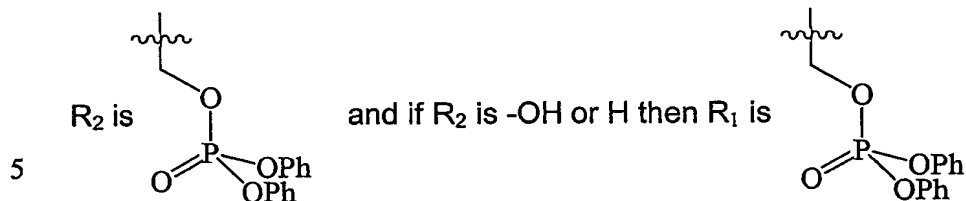


and if R<sub>2</sub> is -OH or H then R<sub>1</sub> is



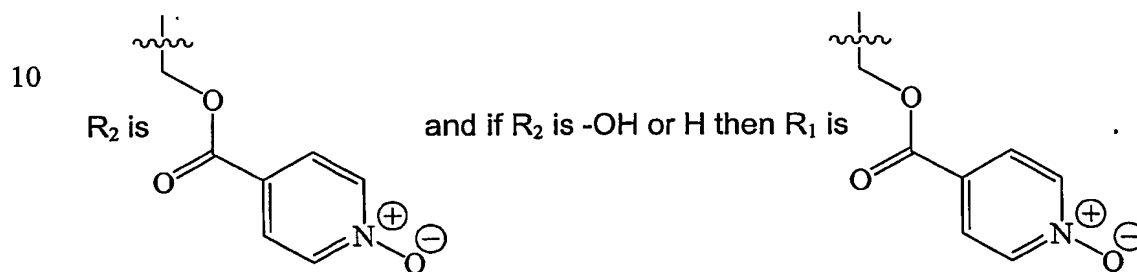
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35. The compound of claim 1, wherein if  $R_1$  is H or -OH then



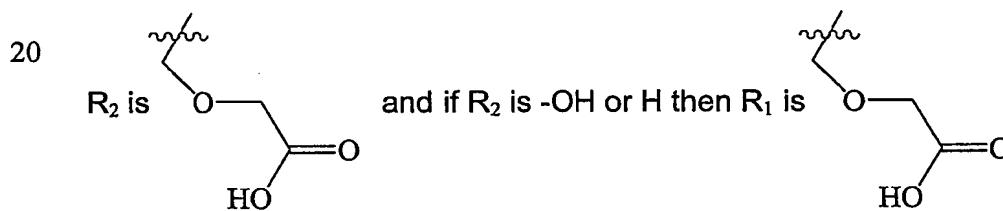
36. The compound of claim 1, wherein if  $R_1$  is H then  $R_2$  -OH.

37. The compound of claim 1, wherein if  $R_1$  is H or -OH then

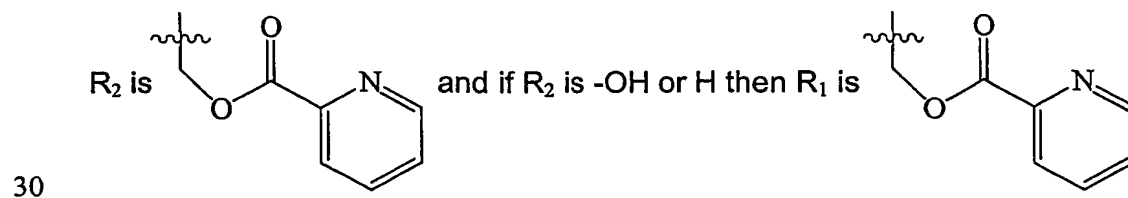


15 38. The compound of claim 1, wherein if  $R_1$  is H then  $R_2$  is carboxylic acid.

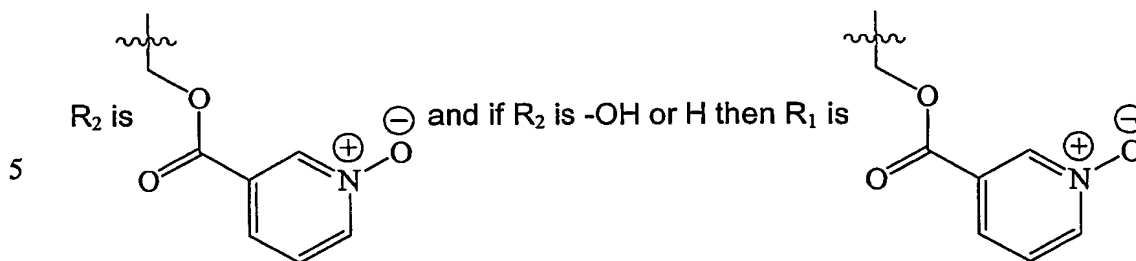
39. The compound of claim 1, wherein if  $R_1$  is H or -OH then



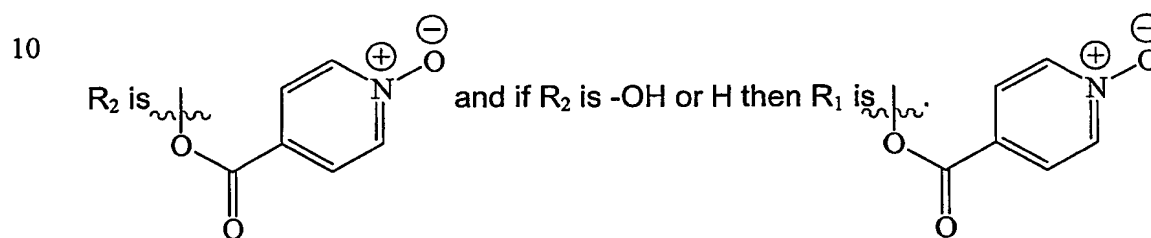
25 40. The compound of claim 1, wherein if  $R_1$  is H or -OH then



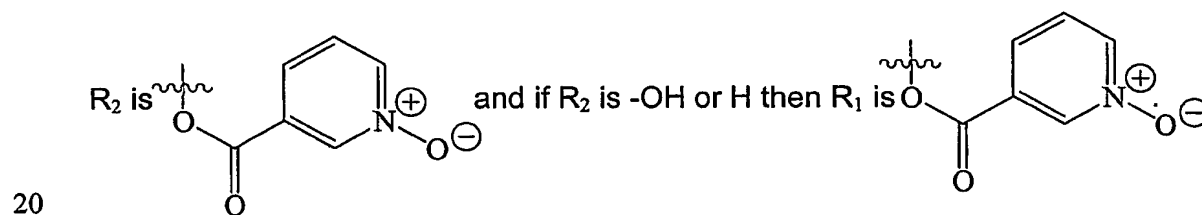
41. The compound of claim 1, wherein if  $R_1$  is H or -OH then



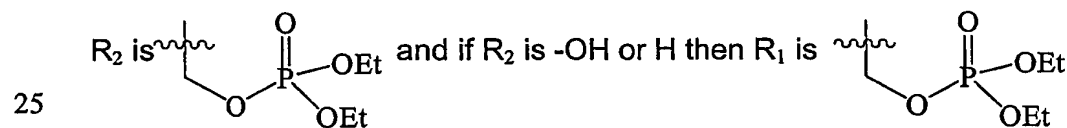
42. The compound of claim 1, wherein if  $R_1$  is H or -OH then



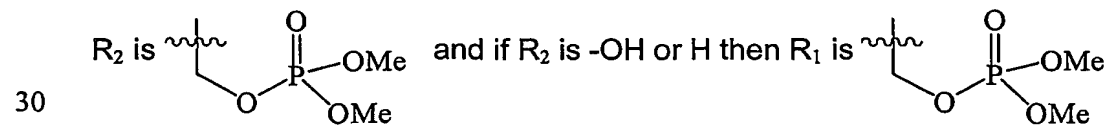
15 43. The compound of claim 1, wherein if  $R_1$  is H or -OH then



44. The compound of claim 1, wherein if  $R_1$  is H or -OH then

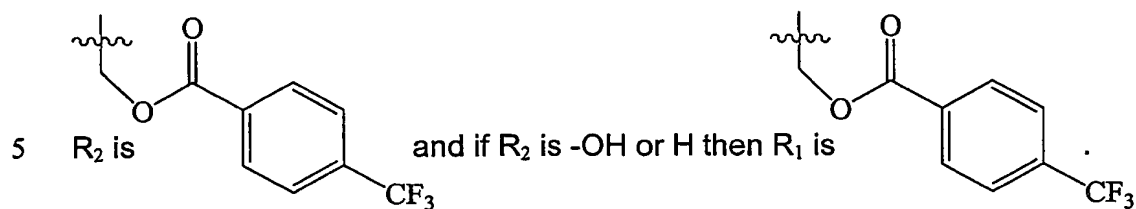


45. The compound of claim 1, wherein if  $R_1$  is H or -OH then

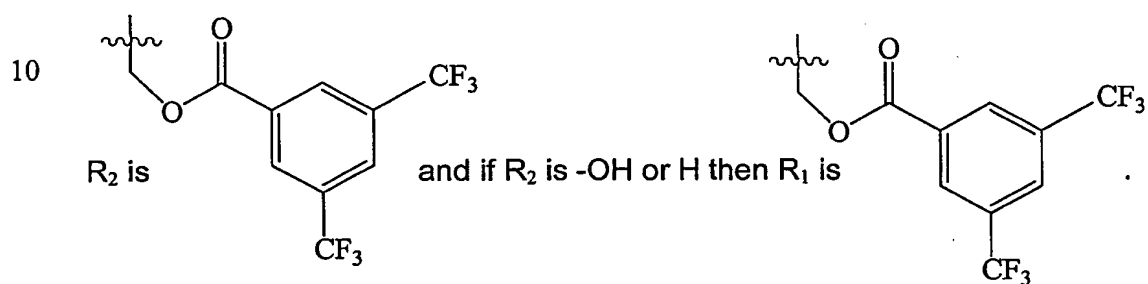




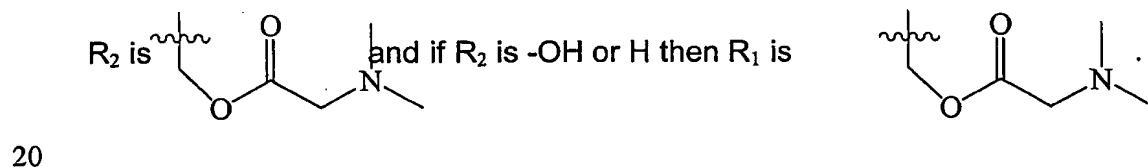
46. The compound of claim 1, wherein if  $R_1$  is H or -OH then



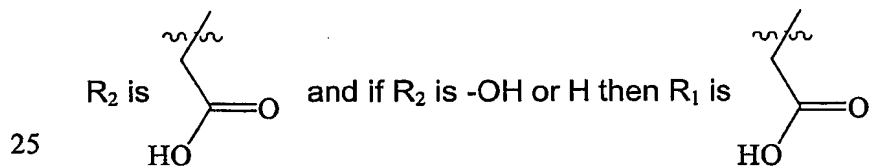
47. The compound of claim 1, wherein if  $R_1$  is H or -OH then



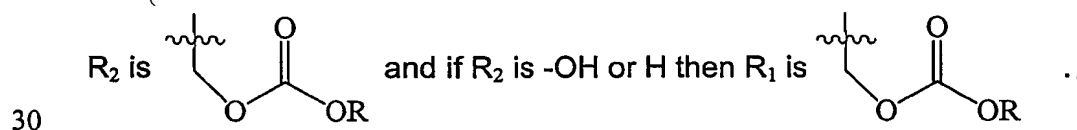
15 48. The compound of claim 1, wherein if  $R_1$  is H or -OH then



49. The compound of claim 1, wherein if  $R_1$  is H or -OH then

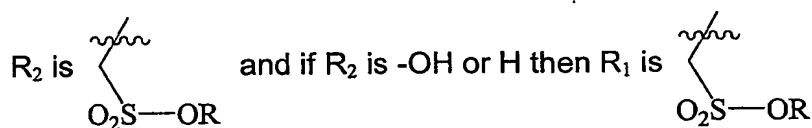


50. The compound of claim 1, wherein if  $R_1$  is H or -OH then



51. The compound of claim 50 wherein R is a methyl or ethyl group.

52. The compound of claim 1, wherein if  $R_1$  is H or -OH then

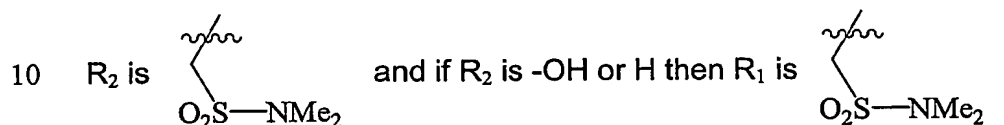


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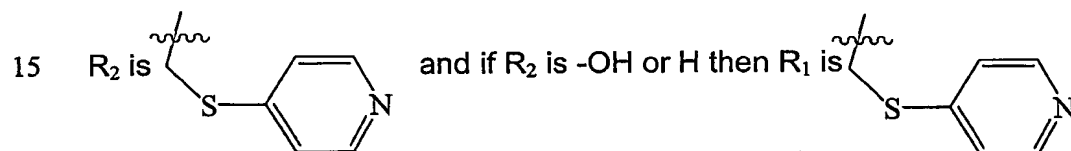
53. The compound of claim 52 wherein R is a methyl group.

54. The compound of claim 52 wherein R is an iso-propyl group.

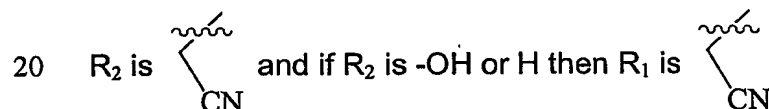
55. The compound of claim 1, wherein if  $R_1$  is H or -OH then



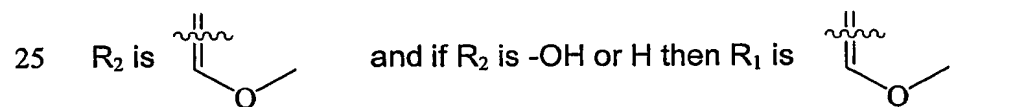
56. The compound of claim 1, wherein if  $R_1$  is H or -OH then



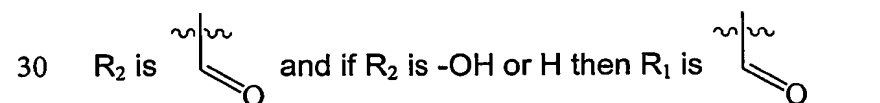
57. The compound of claim 1, wherein if  $R_1$  is H or -OH then



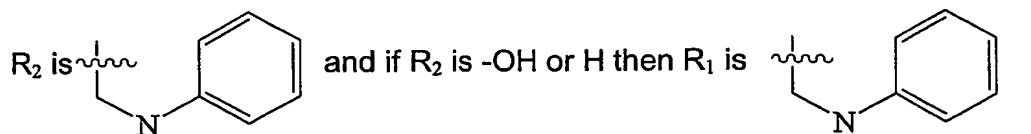
58. The compound of claim 1, wherein if  $R_1$  is H or -OH then



59. The compound of claim 1, wherein if  $R_1$  is H or -OH then

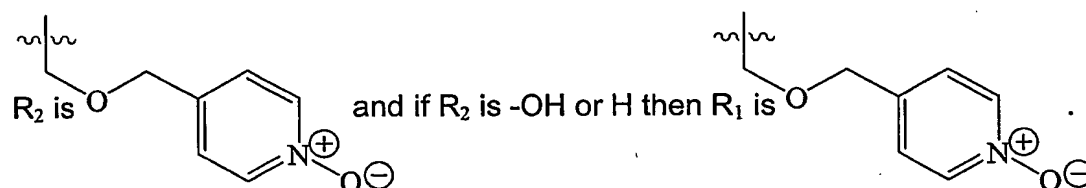


60. The compound of claim 1, wherein if  $R_1$  is H or -OH then



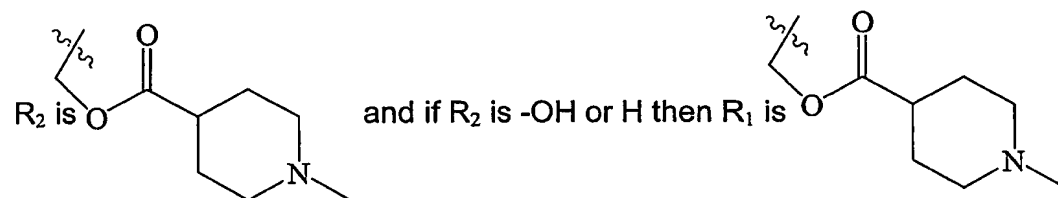
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61. The compound of claim 1, wherein if  $R_1$  is H or -OH then



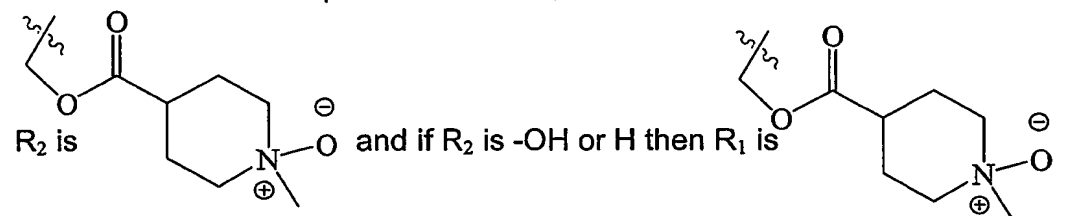
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62. The compound of claim 1, wherein if  $R_1$  is H or -OH then



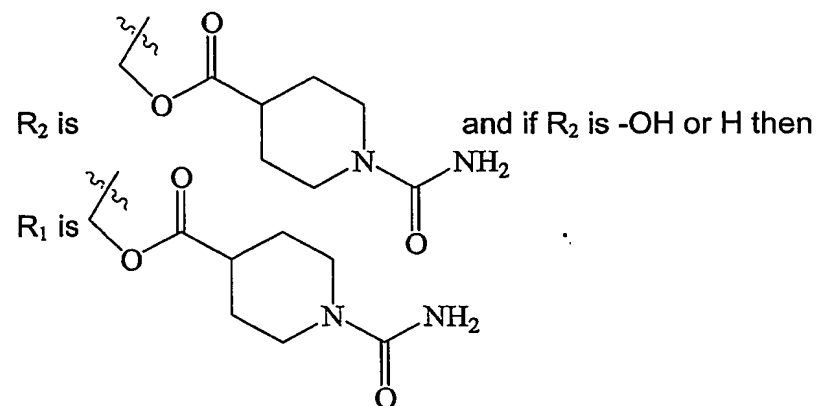
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63. The compound of claim 1, wherein if  $R_1$  is H or -OH then



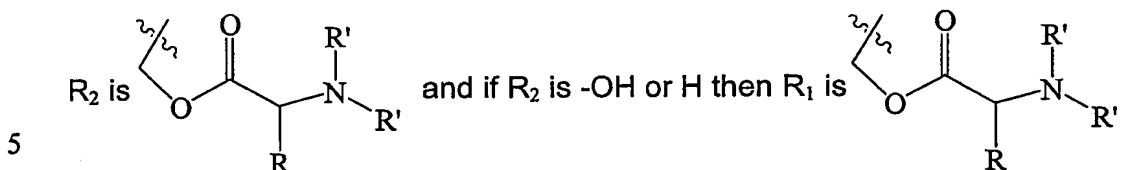
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64. The compound of claim 1, wherein if  $R_1$  is H or -OH then



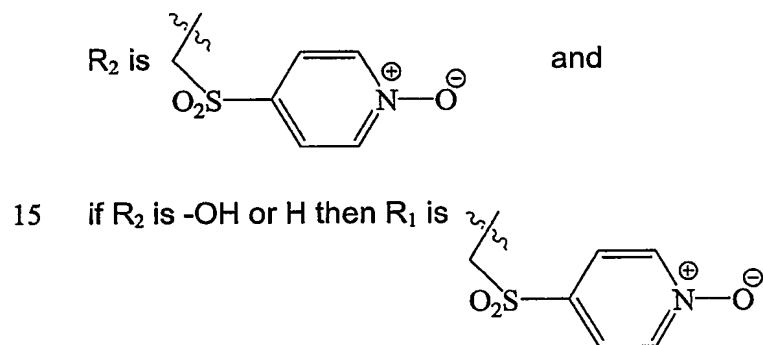
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65. The compound of claim 1, wherein if  $R_1$  is H or -OH then

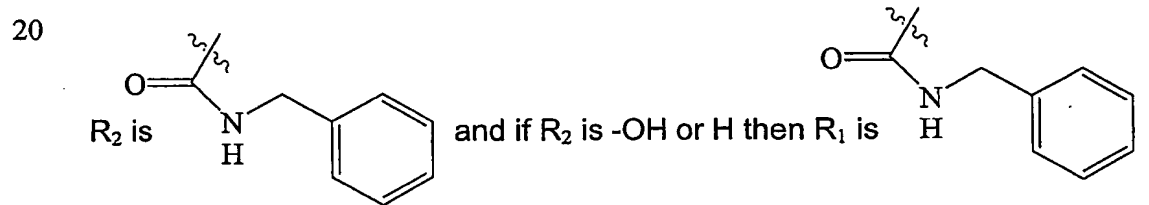


66. The compound of claim 66 wherein each  $R'$  and  $R$  independently can be any amino acid of all possible stereochemistries and with any degree and choice of protecting group.

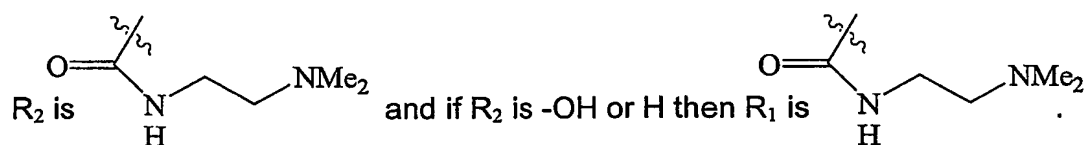
67. The compound of claim 1, wherein if  $R_1$  is H or -OH then



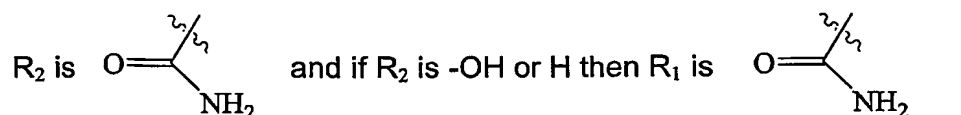
68. The compound of claim 1, wherein if  $R_1$  is H or -OH then



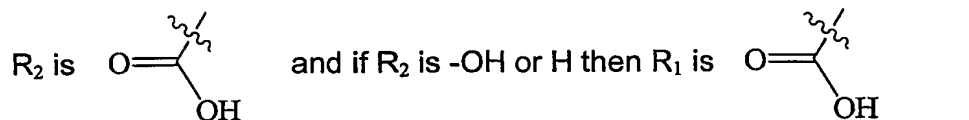
69. The compound of claim 1, wherein if  $R_1$  is H or -OH then



70. The compound of claim 1, wherein if  $R_1$  is H or -OH then

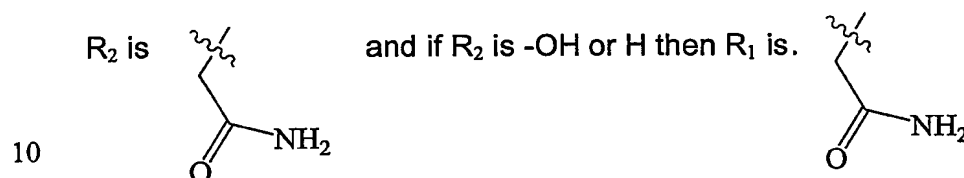


71. The compound of claim 1, wherein if  $R_1$  is H or -OH then



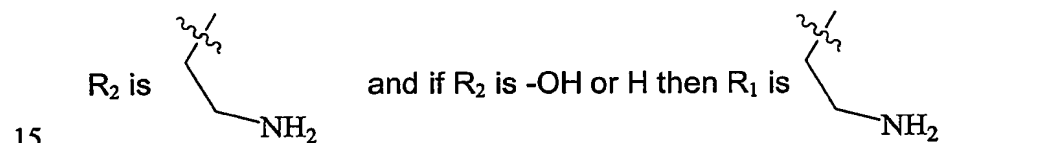
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72. The compound of claim 1, wherein if  $R_1$  is H or -OH then



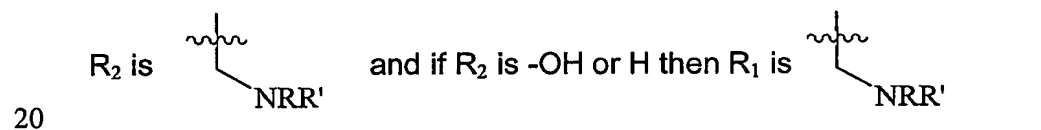
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73. The compound of claim 1, wherein if  $R_1$  is H or -OH then




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74. The compound of claim 1, wherein if  $R_1$  is H or -OH then



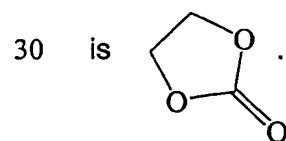
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75. The compound of claim 74, wherein R and R' are independently of each other hydrogen, alkyl, aryl, or allyl.

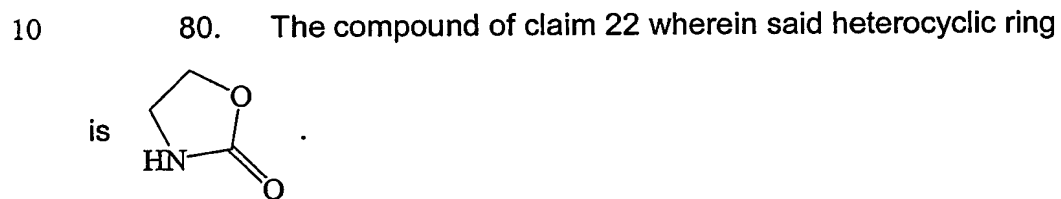
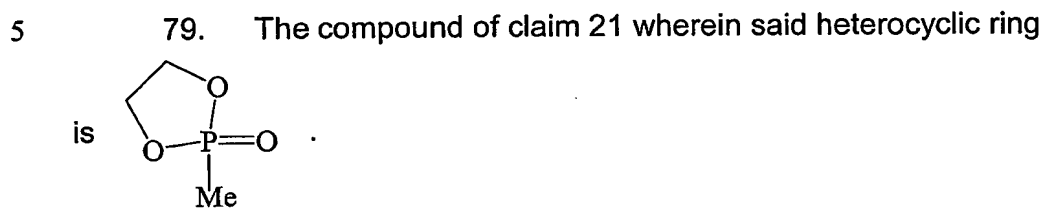
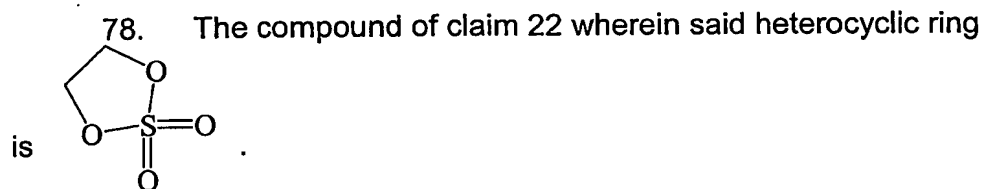
25 76. The compound of claim 19 wherein said heterocyclic ring is .

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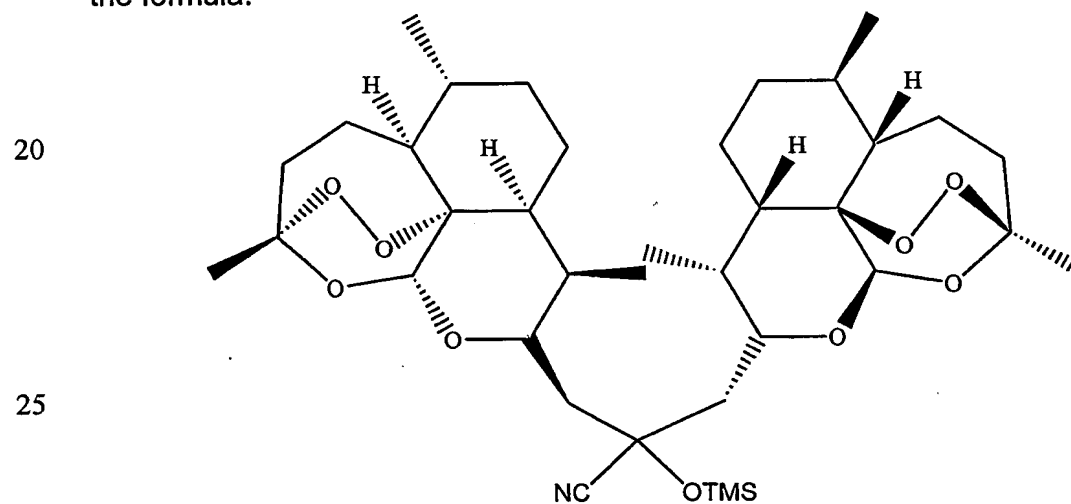
77. The compound of claim 21 wherein said heterocyclic ring



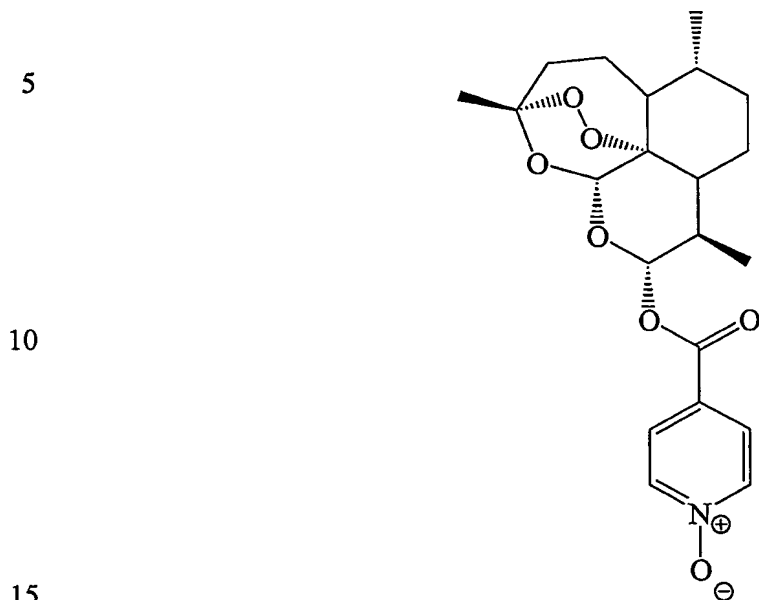
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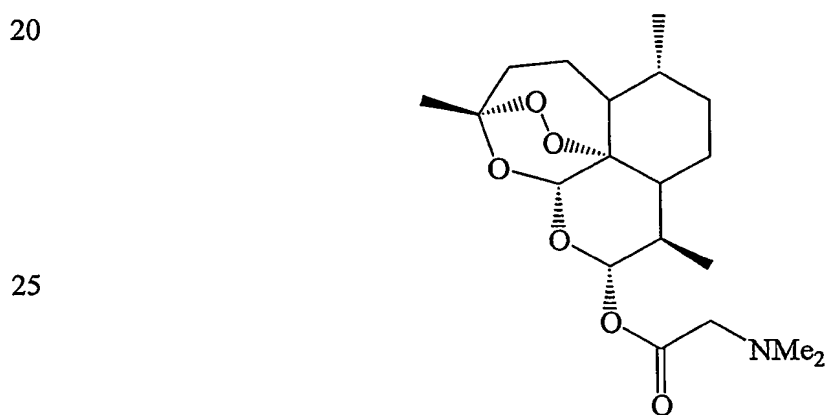
15 81. A compound including resolved enantiomers, diastereomers,  
solvates and pharmaceutical acceptable salts thereof, said compound having  
the formula:



82. A compound including resolved enantiomers, diastereomers, solvates and pharmaceutical acceptable salts thereof, said compound having the formula:



83. A compound including resolved enantiomers, diastereomers, solvates and pharmaceutical acceptable salts thereof, said compound having the formula:



84. A method of treating cancer, which comprises administering to a patient suffering from said cancer a compound or combination of compounds of claims 1 – 83.

85. A method according to claim 84 wherein said cancer is selected from the group of cancers consisting of leukemia, non-small cell lung cancer, colon cancer, central nervous system cancer, melanoma cancer, ovarian cancer, renal cancer, prostate cancer, and breast cancer.

- 5           86. A method for treating malaria comprising administering an effective amount of a compound or combination of compounds of claims 1-83.